

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

**DYNAENERGETICS EUROPE GMBH, and §
DYNAENERGETICS US, INC., §**

Plaintiffs, §

Case No. 6:21-cv-00371-ADA

v. §

PERFX WIRELINE SERVICES, LLC, §

**Defendant. §
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§**

**DEFENDANT PERFX WIRELINE SERVICES, LLC¹'s
OPENING CLAIM CONSTRUCTION BRIEF**

¹ PerfX Wireline Services, LLC ("XConnect") recently changed its name to XConnect, LLC, and filed a Notice of Name Change (Dkt. 27).

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I. INTRODUCTION

Perforating guns are specialized explosive assemblies used by the oil and gas industry to “perforate” underground formations and to assist in the extraction of fossil fuels and natural gas. The asserted patents—U.S. Patent No. 10,844,697 and U.S. Design Patent No. D904,475—are directed toward a specific perforating gun assembly design and a claimed design for a tandem sub, respectively. XConnect’s proposed constructions for the ‘475 and ‘697 patents reflect the meaning of the disputed terms, based on the claims, specifications, and Dyna’s own statements to the Patent Office. For these reasons, the Court should adopt XConnect’s proposed constructions.

II. ‘475 PATENT

A. ‘475 Patent Construction²

Design patent claim construction is properly conducted through the eyes of the Court. *Soffpool, LLC v. Intex Recreation Corp.*, 2007 WL 4522331, at *1 (E.D. Tex. Dec. 19, 2007). To do so, typically requires a two-step process. *Lanard Toys Ltd. v. Dolgencorp LLC*, 958 F.3d 1337 (Fed. Cir. 2020). First, to clarify the scope of the protected subject matter, the Court should consider the functional features of the design. *Id.* at 1342. Specifically, the Federal Circuit advises district courts to “distinguish[] between those features of the claimed design that are ornamental and those that are purely functional.” *Id.* at 1342 (emphasis added) (quoting *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 680 (Fed. Cir. 2008) (en banc)). As part of this step, design patent claims should be construed in reliance on the patent drawings since design patents are “typically . . . claimed as shown in [their] drawings.” *Id.* (quoting *Egyptian Goddess*, 543 F.3d at 679). Second,

² Plaintiff contends that claim construction of the ‘475 patent is not proper because it is a design patent. But nothing in this Court’s standard order governing proceedings states that design patent claim construction should not happen during claim construction nor has this Court’s case law indicated that position. Additionally, other federal district courts in Texas construe design patents during claim construction. *Soffpool, LLC v. Intex Recreation Corp.*, No. 2:07-CV-097, 2007 WL 4522331, at *1 (E.D. Tex. Dec. 19, 2007).

the Federal Circuit advises that “it is helpful to point out various features of the claimed design as they relate to the accused design and the prior art.” *Id.* (internal quotation marks omitted) (quoting *Egyptian Goddess*, 543 F.3d at 680). Importantly, “a design patent cannot claim a purely functional design”—a design patent is invalid if its overall appearance is “dictated by” its function. *Egyptian Goddess*, 543 F.3d at 668. A design patent’s scope is limited to the ornamental aspects of the design. *Ethicon Endo–Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1333 (Fed. Cir. 2015).

1. Step 1- Functional versus Ornamental Aspects of the ‘475 design

The ’475 Patent claims designs relating to a tandem sub, a common component of perforating guns. **Ex. A**, ’475 Patent. Plaintiff contends no construction is necessary. XConnect contends the claimed notches (denoted in blue) and o-ring slots (denoted in green) are purely functional, and therefore, must be excluded from the scope of the claimed ornamental tandem sub design.

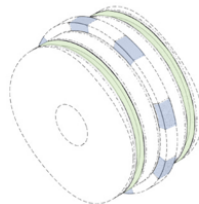
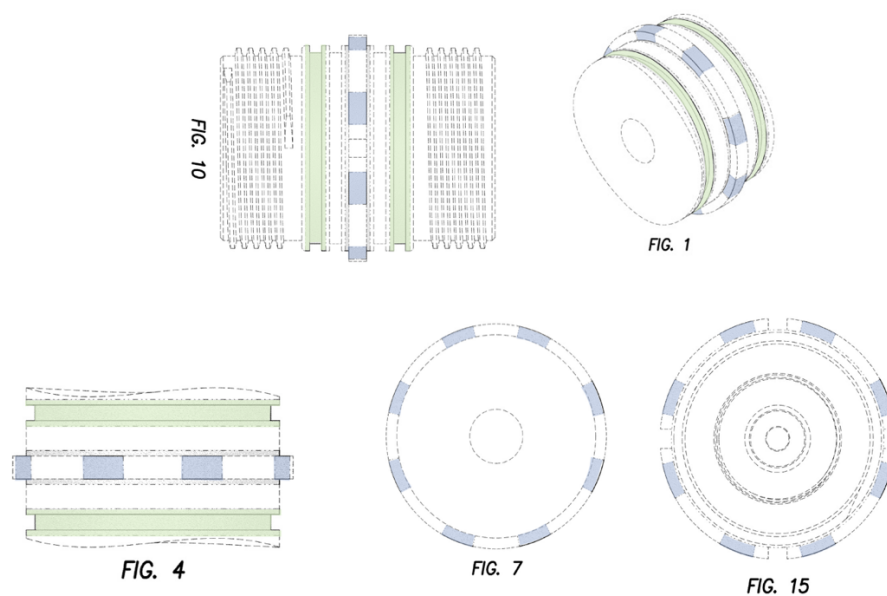


FIG. 1

Notably, the notches and o-ring slots are the only portions of the claimed design. The remainder of the figures reflect dashed and double-dot/dash lines for environment, which are not part of the scope of the claim. *Id.* If the Court determines that the notches are ornamental, then it needs to determine whether: 1) the claimed design requires “8 notches in the center collar of the tandem sub” based on the figures of the ’475 Patent, or 2) the claimed design requires “a solid offset collar of the tandem sub with no notches” based on the figures in the ’673 Application. XConnect contends, if ornamental, the claimed design requires “8 notches in the center collar in the tandem sub.”

a. The notches and o-ring slots are functional

To determine the functional aspects, exemplary figures from the '475 Patent are reproduced below and annotated with blue for the 8 notches and green for o-ring slots.



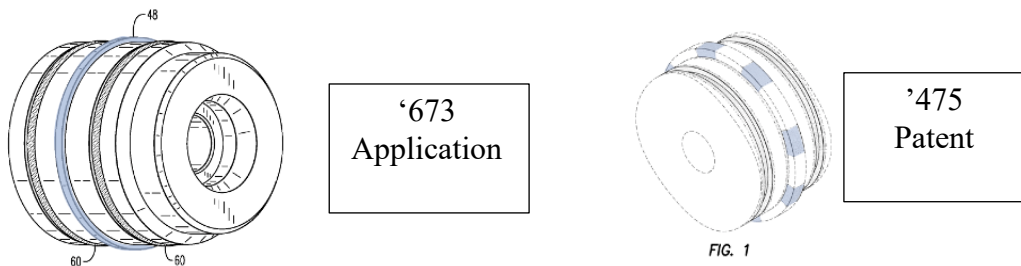
The eight notches highlighted in blue are functional. The 8 notches in the collar are utilized to assemble the perforating gun. **Ex. B**, *Sullivan Dec.*, at ¶ 23. The 8 notch design allows the use of specialized socket tools that can install tandem subs with a hand ratchet wrench or powered drill/impact. *Id.* at ¶ 24. The socket tool and ratchet/drill combination means the socket tool does not have to be repositioned and can rotate 360 degrees continuously. *Id.* This is apparent from Dynaenergetics' disclosure of several prior art references that disclosed a notch configuration. *Id.*, at ¶ 26. Notably, this is an improvement in the design in the '673 Application that required use of pipe wrenches, which require frequent adjustment and relocation. *Id.*, at ¶¶ 19, 21, 22. As such, the notches are tied to the tool used for assembly, which fits between the notch troughs to gain leverage. Because the design is dictated by the function of the tandem sub, it is purely functional. *Egyptian Goddess*, 543 F.3d at 668.

With respect to the o-rings slots, Plaintiff contends the '475 design is entitled to claim priority to PCT Application PCT/CA2014/050673 ("'673 Application"). The o-ring slots are expressly disclosed in the '673 Application. Specifically, the '673 Application teaches the "tandem seal adapter 48 is configured to seal the inner components with the carrier 12 from the outside environment, using sealing means 60 (shown herein as o-rings). **Ex. C**, at 11:34-12:2. This design is wholly functional as explained by the '673 Application, as it utilized o-rings slots and o-rings "to seal the gun assemblies from each other along with the bulkhead." *Id.* at 12:2-4; **Ex. B** at ¶ 20. Notably, a method using the tandem seal adapter with the o-rings is claimed in the application as a "method according to claim 21, further comprising the steps of: ...) pushing in a tandem sub with o-rings onto the first gun assembly." *Id.* at pp. 21-22 at Claim 22. Thus, the design of the o-rings slots is wholly functional as it seals the inner components. **Ex. B**, at ¶ 20.

Plaintiffs have also taken the position in this case that o-rings slots as part of "the tandem seal adaptor" are functional, as they infringe claim 1 of the '697 patent. Dkt. 1 at ¶ 21. The blue and green portions of the claimed design are dictated by their function, and, therefore, are purely functional and not ornamental.

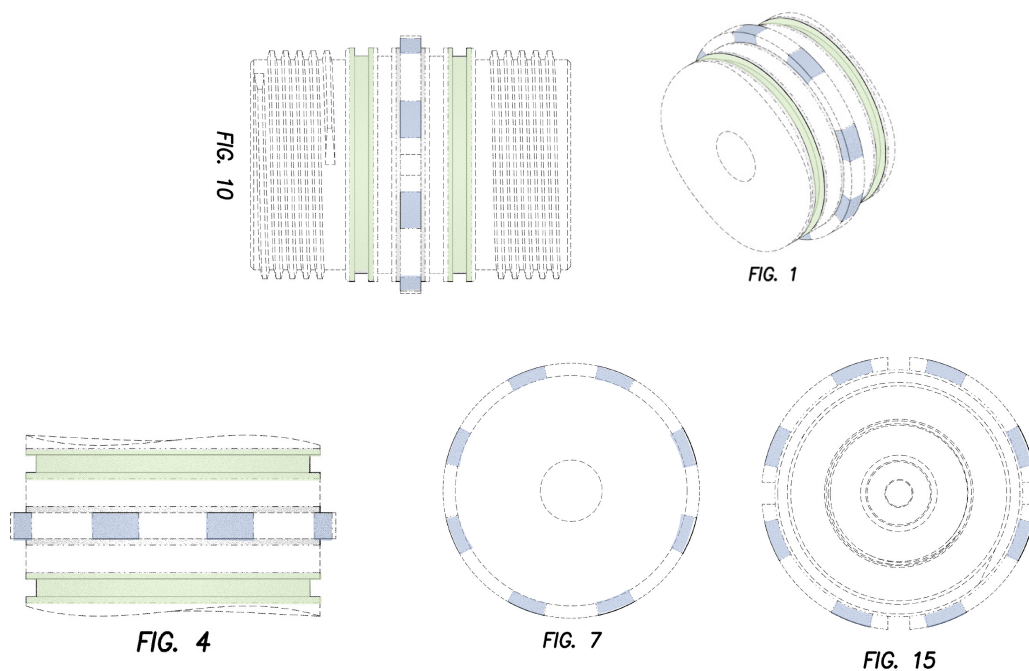
b. Alternatively, the claim requires at least 8 notches

The Plaintiff contends that claim construction is not required. However, Plaintiff's reliance on earlier figures demonstrates why claim construction is necessary. Specifically, Plaintiff contends the '475 design is entitled to claim priority to the '673 Application. **Ex. D**, *Corres. dated May 6, 2021*. Notably, the '673 Application tandem sub design is drastically different as it has a solid offset collar (blue) as opposed to a notched center collar (blue) disclosed in the '475 design. *Compare, e.g., '673 Application at Fig. 26, with '475 Patent at Fig. 1:*



Given the obvious differences, claim construction is necessary to determine whether the claim design requires a sub tandem design with 8 notches or a solid collar. Specifically, the Court needs to determine whether: 1) the claimed design requires “8 notches in the center collar of the tandem sub” based on the figures of the '475 patent, or 2) the claimed design requires “a solid offset collar of the tandem sub with no notches” based on the figures in the '673 Application.

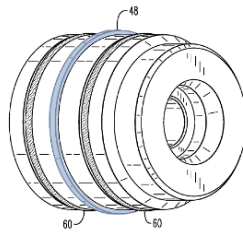
The '475 patent figures plainly disclose 8 notches (blue) in the center collar:



Specifically, the figures in the '475 patent utilize solid lines and double-dot/dash pattern lines to identify the claimed design and its boundary lines, and those solid lines depict 8 notches in the

center collar of the tandem sub. If the Court determines the notches are ornamental, then the claim should be construed as “8 notches in the center collar of the tandem sub.”

However, if the Court determines the figures from the '673 Application are controlling, then the Court should construe the claim as “a solid offset collar of the tandem sub with no notches” as shown below in blue.

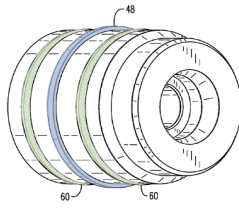


2. Step 2- Claimed design as they relate to the accused design and the prior art

If the Court determines the claimed design requires “8 notches in the center collar of the tandem sub,” Plaintiff’s theory of infringement would invalidate the patent³. **Ex. E, *Supp. Infring. Con., Exhibit B***. According to Plaintiff, this design discloses the same eight notched design and o-ring slots as the '475 Patent. *Id.*

If the Court construes this claim to require “a solid offset collar of the tandem sub with no notches,” then the Court should consider whether there is any ornamental feature in the '475 patent that is distinct from the prior art SafeJet system, teaching the same solid collar design. **Ex. F, *Inval. Cont., Exhibit B-5***. Exemplary images of the SafeJet system are reproduced below, side-by side with figures from the '475 Patent.

³ Thilo Scharf, a named inventor on the '475 patent, was aware of the XConnect perforating gun at least as of December 18, 2019. **Ex. P, *Email Correspondence***.



The SafeJet system discloses the same offset solid collar design and O-ring slots; thus, it is not distinct from the prior art.

III. '697 PATENT

A. “tandem seal adapter” (claim 1)

XConnect’s Construction	DynaEnergetics’ Construction
“Adaptor configured to form a seal between two gun carriers that are directly attached to each other.”	plain and ordinary meaning

Claim 1 recites a “tandem seal adapter” that houses the pressure bulkhead and pin connector assembly and seals the detonator from an adjoining gun. The term itself reflects that the tandem seal adapter must form a seal. And XConnect’s proposed construction explains that seal, as described by the ‘697 patent’s specification. XConnect’s position is also consistent with Plaintiff’s expert in other proceedings regarding the patent.

As threshold matter, Plaintiffs admit that “tandem seal adapter” does not have a commonly understood or accepted meaning, noting that the “term ‘tandem seal adapter’ is not a common or accepted industry term.” *Ex. G, Decl. of John Rodgers*, EX2001 to PGR2020-00078 at ¶ 91. Because Plaintiffs admit “tandem seal adapter” is not commonly understood, it may be construed “only as broadly as provided for by the patent itself.” *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004); *Indacon, Inc. v. Facebook, Inc.*, 824 F.3d 1352, 1357 (Fed. Cir. 2016) (“terms [that] have no plain or established meaning to one of ordinary skill in the art . . . ordinarily cannot be construed broader than the disclosure in the specification”).

The specification of the '697 Patent illustrates three assemblies that include a “tandem seal adapter” component. **Ex. H**, '697 Patent at Figs. 19, 32, 33. For example, in annotated Figure 32 below, the “tandem seal adapter 48” (in green) is an internal component that is located between and within two gun carriers (in orange) that are directly attached to each other (see threaded connections at red arrows). According to the '697 Patent, “the tandem seal adapter 48 seals the gun assemblies from each other along with the bulkhead 58 and transmits a ground wire to the carrier 12.” *Id.* at 7:64–66.

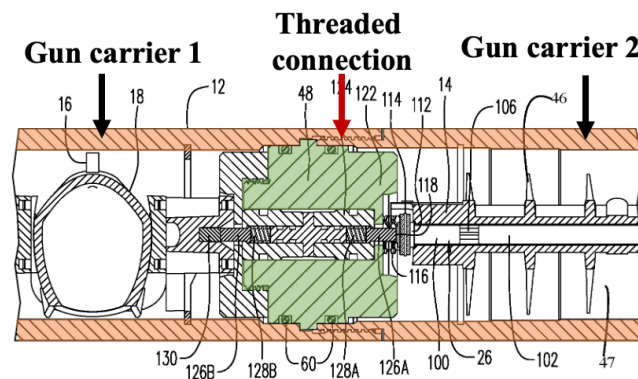
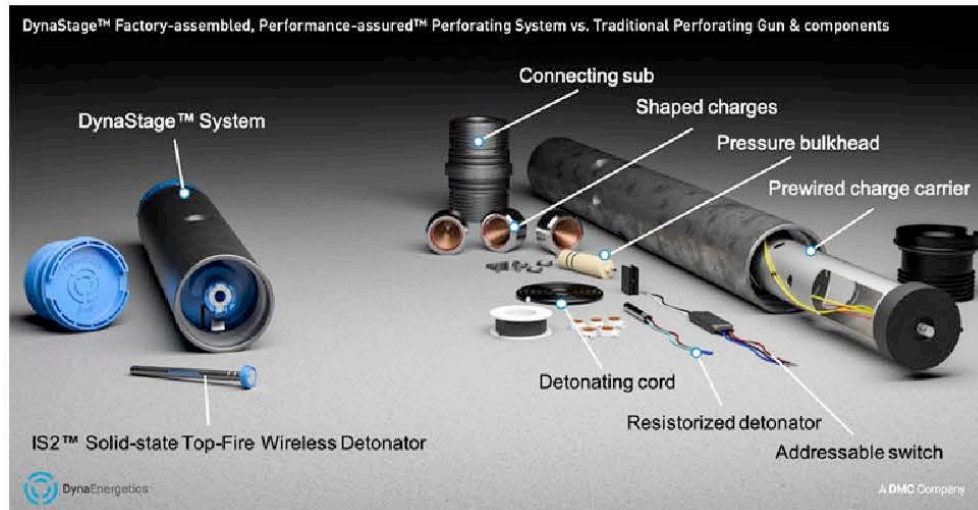


FIG. 32

As a result, XConnect’s proposed construction—an “adapter configured to form a seal between two gun carriers that are directly attached to each other”—properly captures the meaning of this term “only as broadly as provided for by the patent itself.” *Irdeto Access*, 383 F.3d at 1300. Similarly, XConnect’s construction is also consistent with the '697 Patent’s description of how the tandem seal adapter and the gun carriers are assembled. The asserted patent explains assembling the claimed invention involves “pushing in a tandem seal adapter with o-rings onto the first gun assembly” and then “*threading a subsequent gun assembly onto the first gun assembly.*” *Id.* at 10:9–10, 10:14–17 (emphasis added).

Additionally, the '697 patent specification distinguishes Dyna's new term "tandem seal adapter" from the prior art term "sub," which Dyna's expert recognized "is a common term of art in the oil and gas industry" and is "a type of gun connector." **Ex. I**, *Trans. of John Rodgers* at 20:8-11; **Ex. J**, *Decl. of Rodgers*, EX2002, PGR2021-00080, at ¶ 67. Plaintiffs' own marketing material identifies a "sub" in contrast to its DynaStage commercial embodiment, explaining how its product differs by eliminating the need to utilize connecting subs. **Ex. K**, PERFX0012867, at 68 ("eliminating the need to reclaim connecting subs"). Plaintiffs provide a side-by-side comparison, identifying the prior art connecting sub, shown below. *Id.*, at PERFX0023870.



Plaintiffs' own marketing makes clear, in such configurations where a "sub" is used to connect two assemblies together, the sub functions as and becomes an outer piece of the tool string, meaning that it must be strong enough to resist and withstand the extreme forces encountered in the well bore.

In contrast, the "tandem seal adapter" described in the '697 patent is fully enclosed and internal to the tool string. Instead of using a sub to connect two assemblies, the relevant disclosures from the '697 patent place the tandem seal adapter inside the tool string and the assemblies are

directly attached to each other (and not through a sub), as shown above in Figure 32. As a result, the “tandem seal adapter” provides a seal between two directly connected guns.

When Plaintiffs intended to refer to a component as a “sub,” it knew how to do so in the specification. For example, in relation to Figure 33, the ’697 Patent references a “top sub 72” that is connected to the topmost gun assembly. *See, e.g., Ex. H*, at 10:14–16 (reciting the assembly step of “threading a top sub (element 72 in Figs. 1, 23 and 24) onto a topmost gun assembly”). Thus, the top sub 72 attaches to the assembly and forms part of the outer tool string (see threaded connection at red arrow). And Figure 33 also illustrates “tandem seal adapter 48” (highlighted in green below) as a distinct component from a sub:

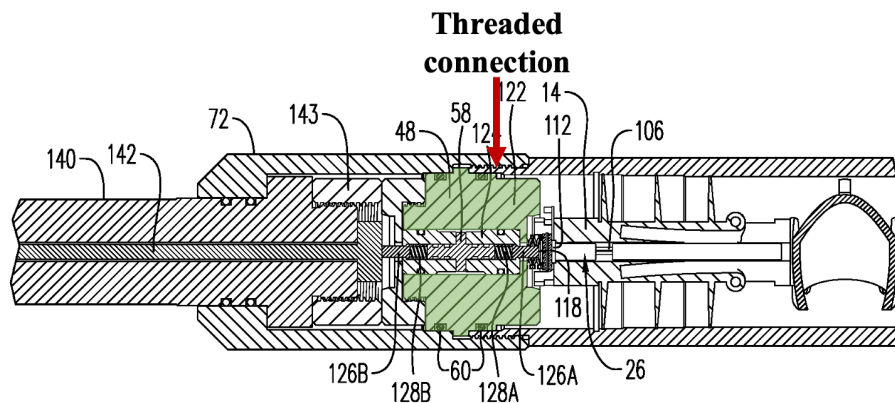


FIG. 33

Given that Plaintiffs already represented to the Patent Office that “[t]he term ‘tandem seal adapter’ is not a common or accepted industry term,” it is wholly improper and illogical for Plaintiffs to now insist that the term be given its “plain and ordinary meaning.” Plaintiffs already admitted there is no such plain and ordinary meaning. The ’697 patent has no disclosure of a “tandem seal adapter” that serves as a “sub” component that attaches two assemblies together. Instead, in drafting its claims and securing its patent, Plaintiffs distinguished between sub components and the “tandem seal adapter” and explicitly claimed a gun design that used the latter.

Accordingly, the Court should adopt XConnect’s proposed construction and reject Dyna’s attempt to improperly broaden the scope of the term “tandem seal adapter.”

B. “pin connector assembly” (claim 1)

G&H’s Construction	DynaEnergetics’ Construction
“plurality of parts that are fitted together to form a component with pins for electrically connecting two guns or tools”	plain and ordinary meaning

The word “assembly” should be a straightforward term that can be construed with “little more than the application of the widely accepted meaning.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). But Plaintiffs are contorting this term to conjure up a theory of infringement. Here, Plaintiffs ignore that the widely accepted meaning of “assembly” makes clear that the “pin connector assembly” is a plurality of parts that are fitted together to form the claimed component. This is consistent with the fact that an “assembly” must be collected from multiple parts is universally consistent with various dictionaries. **Ex. L**, *Macmillian Dictionary*, at “assembly”, at Def. 3; **Ex. M**, *Lexico.com*, at “assembly”, at Def. 3 and 3.1.

In *Safe Bed Technologies*, the court construed the similar term “patient support assembly” as also requiring a plurality of parts. *See Safe Bed Technologies Co. v. KCI USA, Inc.*, 2004 WL 2044277, at *5 (N.D. Ill. 2004). In rejecting the plaintiff’s argument that a “patient support assembly” could include a solitary component, the district court held that such a result “would render the term ‘assembly’ superfluous, which would violate a canon of patent claim construction.” *Id.* For the same reasons, the Court should reject any argument that a “pin connector assembly” includes a solitary component.

XConnect’s proposed construction also captures the described embodiments in the asserted patent. For example, Claim 1 recites a “pressure bulkhead also having a pin connector assembly extending through the pressure bulkhead.” **Ex. H**, at 11:33–35. The specification notes “the

bulkhead 124 includes spring connector end interfaces comprising contact pins 126A, 126B, linked to coil springs 128A, 128B. This dual spring pin connector assembly including the bulkhead 124 and coil springs 128A, 128B is positioned within the tandem seal adapter 48.” *Id.* at 8:34–38. And the “pin connector assembly” includes a plurality of parts, including at least multiple contact pins 126A and 126B.

XConnect’s construction is also consistent with other usages of “assembly” in the ’697 Patent. For example, the ’697 patent states that the tandem seal adapter “fully contains the bulkhead assembly 58 (comprised of multiple small parts as shown, for instance, in Fig. 19) and that is reversible such that it has no direction of installation.” *Id.* at 8:4-8. Similarly, the patent itself describes that the field of invention is “various perforation gun components that can be modularly assembled into a perforation gun system.” *Id.* at 1:25-27.

The remaining features of the “pin connector assembly”—that it has “pins for electrically connecting two guns or tools”—are equally clear from the claim language. For example, the “pin connector assembly” includes contact pins 126A and 126B, and claim 1 itself recites that “the first detonator is in electrical communication with the pin connector assembly,” which is “configured to relay an electrical signal from the first end of the pressure bulkhead to the second end of the pressure bulkhead.” *Id.* at 11:43–44 and 11:36–38.

And Plaintiff’s own expert, Dr. Rodgers, similarly agrees with XConnect’s construction, where he states that the ’697 Patent “shows and describes a pin connector assembly as shown, for instance, in Fig. 32, as an electrical connection assembly including contact pins 126A, 126B with respective ends configured for connecting to electrical connectors in adjacent perforation guns in a tool string.” **Ex. G**, *Decl. of John Rodgers*, at ¶ 112.

The Court should adopt XConnect’s proposed construction, which is consistent with Plaintiffs’ statement and the specification.

C. “connected to” (claims 1)

XConnect’s Construction	DynaEnergetics’ Construction
Plain and ordinary	“joined or coupled in a manner that resists separation and not merely by physical contact”

XConnect does not believe any construction is necessary of the term “connected to.” Plaintiffs’ proposed construction, however, goes far further and interjects confusion where none needs to occur by specifying that the connection “resists separation and not merely by physical contact.”

First, Plaintiffs’ proposed construction does not specify what it means to “resist separation” or provide any guidance on how much resistance is adequate or what level of force is required for something to resist separation. And it does not explain what type of force that it must be resistant to. For example, a bolt threaded onto a nut may “resist separation” when pulled in the lateral direction, but conversely, may separate easily when the bolt/nut is rotated (i.e., unscrewed) as they are designed to do. The ’697 Patent fails to mention of “resisting separation.”

Additionally, Plaintiffs’ added phrase “not merely by physical contact” narrows the claim scope by exclusion without any support in the specification. But to import the negative limitation, the Court “must find support either in the words of the claim or through express disclaimer or independent lexicography to justify adding that negative limitation.” *Ethicon LLC. v. Intuitive Surgical, Inc.*, 847 Fed. Appx. 901, 907 (Fed. Cir. Mar. 15, 2021) (citation and internal quotes omitted). In this case, neither the claim nor the specification defines the term to exclude physical contact, and there was no discussion during prosecution regarding that concept.

For these reasons, the Court should reject Plaintiffs’ proposed construction and adopt a plain and ordinary meaning to “connected to.”

D. “it is not possible to interrupt the electrical signal from the first pin connector end to the second pin connector end” (claim 2)

XConnect’s Construction	DynaEnergetics’ Construction
Indefinite/not enabled	plain and ordinary meaning

Claim 1 identifies a pin connector assembly that is “configured to relay an electrical signal from the first end of the pressure bulkhead to the second end of the pressure bulkhead.” **Ex. H**, at 11:36–38. Claim 2 further adds the negative requirement that “it is not possible to interrupt the electrical signal from the first pin connector end to the second pin connector end.” But this term as written, is indefinite and does not inform a POSITA of the bounds of the protected invention. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014) (holding patent indefinite where “patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.”); *Ancora Techs., Inc. v. Apple, Inc.*, 744 F.3d 732, 737 (Fed. Cir. 2014).

Of particular importance to the language of Claim 2, “[a]ny construction that results in an artisan not knowing” whether a device is within the claim scope or not is “the epitome of indefiniteness.” *Id.* at 1244 (quoting *Geneva Pharm., Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003)). And, here, the disputed language is indefinite where a POSITA cannot determine whether a given gun assembly would satisfy that negative limitation—i.e., that it is “not possible” for the given gun assembly’s electrical connection to be interrupted. A POSITA has no way to know or confirm whether it is “not possible” for the electrical signal to be interrupted.

Furthermore, the language used in claim 2 in view of the language used in claim 1 further highlights why this claim is indefinite and invalid. Claim 1 states that the pin connector assembly

is “configured to relay an electrical signal from the first end of the pressure bulkhead to the second end of the pressure bulkhead”, while claim 2 recites that it is, “not possible to interrupt the electrical signal from the first pin connector to the second pin connector end.” **Ex. H**, at 11:36-37, 11:48-50. Notably, “differences among claims can also be a useful guide in understanding the meaning of particular claim terms” and “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314, 1315 (Fed. Cir. 2005). Since claim 2 states that it is not possible to interrupt the electrical signal, this would mean that in the broader independent claim 1, it is both possible and impossible to interrupt the electrical connection. An invention cannot be both possible and impossible at the same time; as such, claim 2 is indefinite because it fails to enable a POSITA to make and use the invention, wherein it is impossible to interrupt the electrical signal and also remain within the boundaries of the invention.

Notably, the electrical signal from the first pin connector end to the second pin connector end could be interrupted through the corrosion of internal wires or contacts, the breakage of constituent parts from extreme pressure, shock or heat, the failure of a seal causing flooding and an electrical short, and/or operator error in the initial assembly or continued use of the product. **Ex. N**, *Decl. of John Williams*, at ¶ 17. As components of a perforating gun assembly, those parts sit in close proximity to explosives that are detonated in order to fracture underground perforations. Similarly, one of the stated goals of the asserted patent is to provide a seal between gun assemblies. However, an electrical signal can be interrupted in the event a seal fails and the resulting flooding of the gun causes an electrical short. *Id.*

And Plaintiffs agree. Plaintiffs acknowledge the electrical connection can also be interrupted when components of the assembly are removed such as during disassembly. **Ex. O**,

Patent Owner Prelim. Resp., PGR2021-00078, Paper 7, at 88; **Ex. N**, at ¶ 17. Plaintiffs explained how mechanical failure and manufacturing defects can interrupt an electrical connection when wires “are vulnerable to cutting, crimping, or other damage” and may include “manufacturing defects, or [] shocks from transport, handling, and installation”. **Ex. O**, at 33, 88; **Ex. N**, at ¶ 17. Similarly, the risk of failure depends on a wide variety of factors relating to each drilling and perforating operation, including the formation geology, the depth and angel of the wellbore, and the environmental temperatures and pressures encountered. **Ex. N**, at ¶¶18-19. This is no minor concern: hydraulic fracturing can reach depths ranging from 5,000 to 20,000 feet or more and encounter temperatures exceeding 300 degrees Fahrenheit and pressures exceeding 10,000 psi. *Id.* at ¶19. As a result, not only is there a wide array of risks that could interrupt the electrical signal, but an artisan would not know from one well to the next how a given assembly would fare—i.e., whether it is “possible” to interrupt the electrical signal from one well to the next.

In *Halliburton*, the Federal Circuit affirmed a finding of indefiniteness under identical facts. Halliburton argued that the term “fragile gel,” as defined in the patent, meant a gel that was “capable of suspending drill cuttings and weighting materials.” *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1250 (Fed. Cir. 2008). However, the Federal Circuit held that “[t]he fact that Halliburton can articulate a definition supported by the specification, however, does not end the inquiry.” *Id.* at 1251. “Even if a claim term’s definition can be reduced to words, the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into a meaningfully precise claim scope.” *Id.* In finding that the term “fragile gel” was indefinite, the Federal Circuit emphasized that “under Halliburton’s proposed construction in this case, an artisan would not know from one well to the next whether a certain drilling fluid was withing the scope of the claims because a wide variety of factors could affect adequacy (formation geology, wellbore

size, depth, angle, etc.”). *Id.* at 1254–55. “In other words, a given fluid might be adequate to suspend drill cuttings in some formations and/or well configurations, whereas in others it would not be.” *Id.* at 1255. Importantly, “[w]hen a proposed construction requires that an artisan make a separate infringement determination for every set of circumstances in which the composition may be used . . . that construction is likely to be indefinite.” *Id.* Similarly, in the present case, the “not possible” language requires an artisan to make a separate infringement determination for every set of circumstances in which a given gun assembly may be used. As a result, this negative language is “the epitome of indefiniteness.” *Id.*

Further highlighting the indefinite nature of the claim language, the negative limitation also requires proof of a negative. Because there are many ways for an electrical connection to be interrupted, an artisan can never know whether it is truly “not possible” to interrupt the connection. For example, just because a drilling or perforating string works successfully on 50 jobs does not mean that it will not fail on the next job (or the next job after that). **Ex. N**, at ¶21. As a result, it is impossible to know or to confirm that the language is satisfied, and the language fails to inform the public of the bounds of the invention. *Ancora*, 744 F.3d at 737.

The ’697 Patent also fails to properly enable the term “not possible to interrupt the electrical signal from the first pin connector end to the second pin connector end.” **Ex. N**, at ¶¶ 23-25. There are many ways that an electrical signal can be interrupted, including through the corrosion of internal wires or contacts, the breakage of parts from extreme pressure, shock or heat, and the general failure of sealing elements causing flooding and electrical shorts. *Id.*, at ¶ 24. The ’697 Patent is completely silent on these risks and fails to teach the public how those risks can be eliminated to render them “not possible” under the claim language. And there is no discussion in the ’697 Patent on how to wholly eliminate the risk of corrosion or breakage. As a result, even if

this result was obtainable, an artisan would have to engage in virtually infinite experimentation to determine whether a given pin connector configuration was impervious to corrosion, shock, heat and pressure in a virtually infinite variety of downhole environments. *Id.* Simply put, Claim 2 seeks to patent a special gun assembly that is impervious to electrical interruption without teaching the public how to actually make one. For these reasons, Claim 2 is invalid as indefinite and not enabled.

CONCLUSION

XConnect's proposed constructions accurately reflect the meaning of the disputed claim terms in light of the patent claims and specification while giving proper effect to the prosecution history and Dyna's prior statements. XConnect respectfully requests that the Court adopt its proposed claim constructions and, further, find Claim 2 invalid.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on October 18, 2021, I caused to be served true and correct copies of the foregoing via email on the counsel of record.

/s/ Megan J. Redmond
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